

## **Amendment to the Specification**

**The Paragraph beginning at Page 2, lines 3-4, is to be amended as follows:**

Fig. 1 illustrates a schematic implementation of the preferred embodiment; and

**A new Paragraph beginning at Page 2, line 5, just after "Fig.1 .." paragraph, is to be added as follows:**

Fig. 2 is a schematic block diagram of the main Artcam electronic components (as reproduced from Fig. 2 of Australian Provisional Patent Application No. PO7991).

**New Paragraphs beginning at Page 2, line 30, just before "In the preferred embodiment, the Artcam device..." paragraph, are to be added as follows:**

As described in Australian Provisional Patent Application No. PO7991, the camera system incorporates an Artcard linear sensor 34 which converts the Artcard data image to electrical signals, which are communicated to the ACP. The linear image sensor is illustrated in Fig. 2, which is a reproduction of Fig. 2 of Australian Provisional Patent Application No. PO7991. The linear image sensor can be fabricated using either CCD or APS CMOS technology. The active length of the linear image sensor is 50 mm, equal to the width of the data array on the Artcard. To satisfy Nyquist's sampling theorem, the resolution of the linear image sensor must be at least twice the highest spatial frequency of the Artcard optical image reaching the linear image sensor. In practice, data detection is easier if the linear image sensor resolution is substantially above this. A resolution of 4800 dpi (189 dpmm) is chosen, giving a total of 9,450 pixels. This resolution requires a pixel sensor pitch of 5.3 [ $\mu$ ]m. This can readily be achieved by using four staggered rows of 20 [ $\mu$ ]m pixel sensors.

The linear image sensor is mounted in a special package which includes an LED to illuminate the Artcard via a light-pipe.

The Artcard reader light-pipe can be a molded light-pipe which has several functions:

1. It diffuses the light from the LED over the width of the card using total internal reflection facets.
2. It focuses the light onto a 16 [ $\mu$ ]m wide strip of the Artcard using an integrated cylindrical lens.
3. It focuses light reflected from the Artcard onto the linear image sensor pixels using a molded array of microlenses.